



**University of
Zurich**^{UZH}

**Zurich Open Repository and
Archive**

University of Zurich
University Library
Strickhofstrasse 39
CH-8057 Zurich
www.zora.uzh.ch

Year: 2007

The Performance of Public Transport in Swiss Metropolitan Areas: an Empirical Analysis

Koch, P ; van der Heiden, N ; Bernhard, L

Abstract: Looking at public transport in 45 Swiss agglomerations, we tried to identify explanatory factors for an effective output in this policy area. By testing four different modes of political steering in a regression model, we find robust results that a network governance structure performs significantly better than any other type. Governance, as opposed to government, seems to be the more effective mode of political steering for policy problems in which specific aspects of the policies and the relevant territory demand flexible adjustments. We therefore come to the conclusion that the simple dichotomy of government versus governance is not suitable to find the best way to govern for all policies. Rather, the policy and the relevant territory should guide decisions concerning modes of political steering.

Posted at the Zurich Open Repository and Archive, University of Zurich
ZORA URL: <https://doi.org/10.5167/uzh-46761>
Conference or Workshop Item

Originally published at:

Koch, P; van der Heiden, N; Bernhard, L (2007). The Performance of Public Transport in Swiss Metropolitan Areas: an Empirical Analysis. In: EURA Conference 2010, Darmstadt, 12 September 2007 - 14 September 2007, 23pp.

The Performance of Public Transport in Swiss Metropolitan Areas – An Empirical Analysis

Philippe KOCH*, Nico van der HEIDEN** & Laurent BERNHARD*

* National Centre of Competence in Research: Challenges to Democracy in the 21st Century, University of Zurich, koch@nccr-democracy.uzh.ch, bernhard@nccr-democracy.uzh.ch

** Department of Political Science, University of Zurich, nico@ipz.uzh.ch

Paper for the EURA conference in Glasgow, 12-14 September 2007

Draft version as of 7th September 2007

Do not quote

Content

Abstract.....	1
1. Introduction.....	1
2. Governing the urban territory: typology and thesis.....	3
2.1 <i>From the ‘old’ to the ‘new’ regionalism or government vs. governance</i>	3
2.2 <i>Metropolitan government vs. governances: two general theses</i>	6
3. A quantitative approach to the governance of urban public transport	7
3.1 <i>Dependent variable</i>	7
3.2 <i>Independent variables</i>	9
3.3 <i>Results</i>	11
3.4 <i>Discussion of the quantitative results</i>	14
4. Conclusion	18
5. Bibliography.....	20

Abstract

Looking at public transport in 45 Swiss agglomerations, we tried to identify explanatory factors for an effective output in this policy area. By testing four different modes of political steering in a regression model, we find robust results that a network governance structure performs significantly better than any other type. Governance, as opposed to government, seems to be the more effective mode of political steering for policy problems in which specific aspects of the policies and the relevant territory demand flexible adjustments. We therefore come to the conclusion that the simple dichotomy of government versus governance is not suitable to find the best way to govern for all policies. Rather, the policy and the relevant territory should guide decisions concerning modes of political steering.

1. Introduction¹

The problems created by the ongoing urban sprawl are currently one of the most debated issues in European politics. Especially in Switzerland, after several decades of ignoring any questions of urban areas on the national level (Washington 2000; Diener et al. 2005; Skelcher et al. 2006), there exists an increasing interest in the promotion of urban areas as nodal points for the national development in economic terms. In addition agglomerations are currently seen as the areas, where problems of political steering are most vital. Although Switzerland is often perceived as a rural country, it is highly urbanised with three quarter of the population living in urban areas. At the same time, Switzerland is very fragmented on a political level with more than 2700 communities that have on average just 2517 inhabitants (Steiner 2002; Ladner und Steiner 2003). The fragmented character of the political structure leads to problems of political co-ordination in urban areas, where the functional and political territory do not correspond. The necessity for co-ordination within different policy fields raises equally to the growth of urban agglomeration. (Sager 2002; Steiner 2002; Kaufmann und Sager 2006; Skelcher et al. 2006).

One of the most crucial policy issue in city-regions is that of transport. Due to the ongoing separation of working areas (in core cities) and the tendency to live in green areas (suburbs), mobility has steadily increased over the last decades. These streams of commuters in agglomerations create massive problems for both the organisation and the infrastructure of transport. One policy solution is the extension of public transport at the expense of private

¹ We would like to thank Samuel Witzig for his help in collecting the empirical data for our analysis. Additionally, we thank Urs Scheuss for his help in data handling and analysing.

traffic. Public transport uses in general fewer infrastructures and is more environmental friendly. Public transport policy involves both the maintenance of the infrastructure (railway lines, bus stops etc.) and the organisation of the supply. Both aspects are crucial for an effective public transport. In this paper we are focussing on questions of organisation of the supply instead of the realisation of large infrastructure projects (Sager 2002). We will analyse the influence of political determinants on the effectiveness of public transport service. More precisely, we tackle the following question:

Which mode of political steering is leading to the best performance of public transport?

This question is crucial for the future development of public transport. As we have dealt with the efficiency of public transport, which is of course another crucial aspect, elsewhere (van der Heiden 2006), we now want to focus on the quality aspects of public transport. A high standard in public transport is of predominant importance for individuals when they decide which form of transport they are going to use. If political actors are interested in a further increase of public transport within the modal split, we argue that mode of political steering and integration is crucial in this respect. Increasing the accessibility of public transport and its use is important not only in order to enhance environmental quality but also to steer the land use (territorial development) within an urban area and to enhance the mobility of rather underprivileged at the edge of the city-region (Dibben 2006).

We are currently not aware of any study that has systematically dealt with the effectiveness of public transport in a comparative matter except for van Egmond et al. (2003). To analyse the political determinants of an effective public transport, we will first develop our concept of different types of political steering based on the literature on metropolitan governance. Thereafter, we will test four governance types in a regression model, accounting for several control variables. We end with some general conclusions and an outlook for future research within the policy area of public transport.

2. Governing the urban territory: typology and thesis

2.1 *From the 'old' to the 'new' regionalism or government vs. governance*

As in most western countries, urbanisation in Switzerland in the late 19th and early 20th century has given rise to a new socio-spatial phenomenon: the agglomeration². It can be characterised by a functional specialisation of space, mainly by the separation of housing and labour (Cunha und Schuler 2001). While urbanisation leads to a socio-economically highly interdependent and functionally integrated territory, the internal polit-institutional fragmentation remains, especially in Switzerland, high (Kübler 2003)³. Thus the political and functional territories are no longer congruent within city-regions. It encompasses a vast number of communes, crosses several cantonal and on rare occasions even national borders. Therefore, the urban area can be perceived as a multi-level setting as there are different political levels with different responsibilities and a functional need of horizontal and vertical co-ordination between the political entities (Savitch und Vogel 2000; Hooghe und Marks 2003).

Simultaneously to the development of urban sprawl, the political debate and theoretical considerations started to focus on the question of how to govern these emerging urban territories (Le Galès 1998; Lefèvre 1998; Parks und Oakerson 2000; Frisken und Norris 2001; Swanstrom 2001; Hooghe und Marks 2003; Heinelt und Kübler 2005). Up to the late 1980s, early 1990s, the debate on the political organisation of metropolitan areas was dominated by two schools of thought, which can be subsumed under the term 'old regionalism'. During the 1990s, new ideas on how to steer and organise urban areas emerged in the academic realm. This new line of reasoning, which can be labelled as 'new regionalism' (Norris 2001) was highly influenced by the emerging research on governance⁴.

The debate within the frame of 'old regionalism' was mainly concerned with questions of the adequate scale of political steering. The metropolitan reformers argue for consolidated government on the metropolitan level. They state that the main problem of urban policy-

² In Switzerland the terms 'agglomeration', 'metropolitan area' or 'city-region' are commonly used to describe an urban area. I will use these terms interchangeably.

³ The agglomerations with the highest numbers of communes, which we analyse, are Zurich containing 132 communes, Geneva 74, Basle 74, Lugano 72 and Lausanne 70.

⁴ Scholars use the concept of governance as a generic term and/or as a specific type of political steering and integration, namely in contrast to government. The minimise confusion we will use governance as a specific type of political steering and integration.

making is the sheer number of jurisdictions involved. They advocate a hierarchical model with one jurisdiction and thus one political entity for the whole urban region. Thereby the functional and political territory would correspond again. Believing in the capacity and the willingness of a centralised bureaucratic regime to resolve urban problems, they foster attempts at amalgamating local governments (Keating 1995; Lefèvre 1998).

On the other hand, advocates of the public choice school emphasis local autonomy and the competition between local authorities. From a public choice perspective, institutional consolidation creates more problems than it solves. Tenets of the public choice school paint a rather sceptical picture of the state and its capacity at resolving societal problems. By stating that people can ‘vote with their feet’, public choice theory introduces a market-based argumentation on urban government. Small political entities should compete against each other for tax payers and thus stay under pressure to produce good services. Therefore, small competing jurisdictions should dominate the urban areas (Ostrom et al. 1961; Frey und Eichenberger 2001). Both lines of argument, however, share a similar bureaucratic and state-centred model of governing cities, with a clear distinction between the market, the state, and society. While the metropolitan reformers expect the bureaucratic steering of a regional government to resolve public problems, the public choice perspective favours market mechanisms among autonomous local authorities in order to govern the urban area. To sum up, the debate within the ‘old regionalism’ is mainly concerned with the question on what scale urban steering and governance should take place.

However, at the beginning of the 1990s, a ‘new regionalist’ agenda emerged, which shifted the theoretical focus from questions of the appropriate level of government for urban areas to questions of the appropriate mode of co-operation between the state, the market and society (Wallis 1994; Frisken und Norris 2001). Research in the vein of the new regionalism literature sheds light on the co-ordination between different political authorities within an agglomeration and between political, economical and societal agencies. This research emphasizes the emergence of “new forms of governance and the dispersion of decision-making away from central states”. It tends to unravel a shift from government to governance (Hooghe und Marks 2003). Capacity of area-wide governance in urban regions is seen to rely increasingly on networks that associate public authorities from various levels of governmental and non-governmental actors (Stoker 2000). Thus, the ‘new regionalist’ research agenda is embedded within the more broad governance literature, which analysis the increased blurring of the separation between the state, the market and society (Rhodes 1997; Peters und Pierre

2000; Savitch und Vogel 2000). Far from being an established theory or a well-defined framework, the concept of governance stands first and foremost for a different normative and empirical understanding of political steering and integration (Van Kersbergen und van Waarden 2004, Blatter 2007). The differences between government and governance can be drawn along two components: the actors involved and the modes of co-ordination (Rhodes 1997; Pierre 2005; Kübler und Schwab 2007). Based on these criteria, two quasi-ideal types can be constructed that represent the two ends of the continuum from government to governance (see table 1).

Table 1: Types of political steering and integration

	Government	Governance
Actors – number of political level/s	State actors form one level	State actors from several levels
Actors – public and/or private	State actors	State and non-state actors
Mode of co-ordination – relation	Hierarchical	Negotiated
Mode of co-ordination – institutionalisation	Bureaucratic rule	Ad hoc

Source: adapted from (Savitch und Vogel 2000) and for the Swiss case (Kübler und Schwab 2007)

The government model, relying on a Weberian-like conception of bureaucratic statehood, makes a clear distinction between the different levels of state authority and the public and private sector. A rather restrictive number of state agencies are legitimised for decision making. In a governance setting, however, the number of relevant actors increases and cross-cuts the boundaries between the central state, local authorities, private agencies and the public. Concerning modes of coordination, government relies on established codified rules of conduct and hierarchical interactions between state agencies. “Government is an elaborated machine that operates through hierarchical layers of political authority” (Savitch und Vogel 2000). Within the governance mode of steering, the coordination is rooted in ad hoc agreed on rules. Some form of non-codified institutionalisation of norms and practices, guiding the recurrent interactions, is likely to emerge. However, the negotiation between the different actors remains the dominant mode of coordination. “In sum, whereas government is vertical and firmly institutionalized, governance is horizontal and flexible. Whereas government is formal and directed from above, governance is informal and self-regulating” (Savitch und Vogel 2000). In the next section, two competing theses concerning the effectiveness of government and governance respectively will be developed.

2.2 *Metropolitan government vs. governances: two general theses*

Which type of steering is expected to deliver the most effective public transport? What is the best way to govern urban policies? There are different logics and conceptions of successful policy-making underlying government and governance mechanisms. That is first, how interests are integrated into the policy process, second, how these interests should be translated into political action and third, how outputs should impact on the reformulation of the policy goals. A governmental mode of political steering aims at defining a conclusive policy goal, which then is translated into detailed laws and regulations that are implemented and enforced by state actors. By contrast, governance relies on a more procedural and reflexive way of political steering, that involves ongoing negotiations between different and more or less equal actors, who aim to produce collective solutions, which are implemented by themselves. In sum, while government relies on substantial rationality, governance relies on a more reflexive rationality (Torfing 2005: 309). For both types, there are theoretical arguments, why the one or the other should produce better results (Keating 1995).

In a **governmental** mode of steering and integration, elected representatives determine substantive goals, then they are translated into policy instruments/means by experts and bureaucrats and implemented through its respective central state apparatus, which should encompass the relevant, economic-functional territory. Through such a process, economies of scale can be exploited, meaning that the optimal size of a territory and the distribution of public service within the territory can be calculated ex ante. It can therefore be assumed that the provision of public transport by encompassing metropolitan governments is better than by fragmented small jurisdictions (Scharpf 2000; Hooghe und Marks 2003: 235). In the government mode of political steering, the number of actors is restricted while the number of functions is large. Thus, the transaction costs are low, while the capacity of planning over related policy fields is high. Within a general-purpose jurisdiction, externalities of political decisions can better be internalized and compensated. Governments with encompassing structures that bring political and functional territories in congruence are said to allow resources to be better distributed and the planning capacities makes “the localization of facilities, activities and housing more harmonious” (Lefèvre 1998: 10). The first thesis we put forward thus is, that

- T1: Governmental modes of political steering lead to better public transport performance than governance modes.

The reflexive rationality of ***governance*** understands policy-making more process-oriented and open-ended. This leads to a different conception of how an effective result can be achieved. From a governance perspective, the inclusion of more and different actors enhances the possibility for participation. Thereby, more knowledge can be gained and the object of intervention and the related interests can be described more appropriate. Different actors should not only be included during the process of opinion formation but also during the formulation of policy means and instruments. For that reason, governance can prevent implementation problems. The provision of public transport can, thus, be assumed to be more adjusted to local differences within one agglomeration. The most important argument from a governance perspective though is the centrality of feedback mechanisms, where the involved networks constantly adjust goals and means, as they are not restricted to predefined regulations and laws (Torfing 2005: 310). Furthermore, the functional scope is rather narrow in most governance settings. Therefore the arena of decision-making is not obstructed by imperatives of parliamentary party politics. In this way interdependencies between policies and jurisdictions are minimized (Hooghe und Marks 2003: 240). Thereby, it is possible to react flexible on endogenous or exogenous developments (Scharpf 1999; Kooiman 2003). Thus, the second thesis states that:

- T2: Governance types of political steering lead to better public transport performance than governmental modes.

In order to test the two contradictory hypotheses, we use a regression model on 45 Swiss agglomerations to identify significant differences between the four governance types.

3. A quantitative approach to the governance of urban public transport

3.1 Dependent variable

In order to measure the performance of public transports, we did a secondary analysis of a data set produced by *umverkehr* ((Umverkehr 2003; Umverkehr 2006)), a Swiss non-governmental organisation specialised in public transport. The goal of the original study was to identify differences in the quality of public transport in Swiss agglomerations. It is the only data set available and it provides a unique basis for comparison.

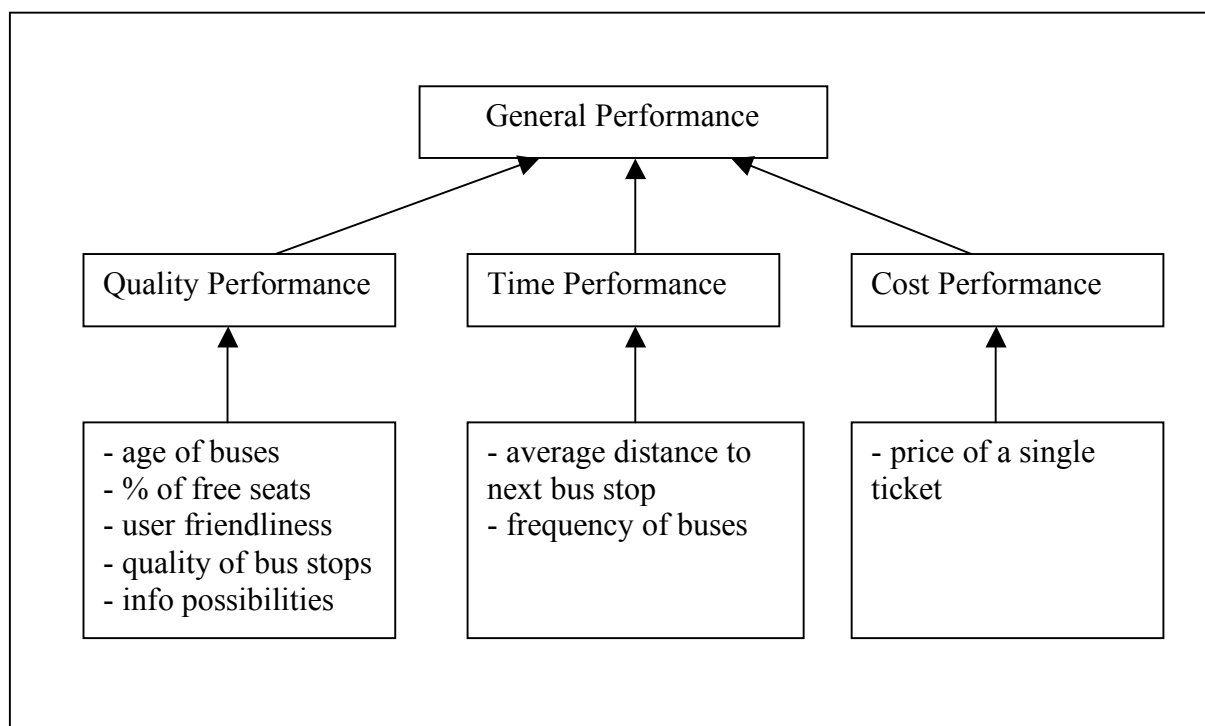
For each of the 45 agglomerations, indicators for the quality, the transport costs and the time of travel were collected. All three categories were further divided into observable variables, as

e.g. the age of buses was one of five indicators that were composing the quality of urban public transport. We limited our analysis to the three categories and the overall indicator for effectiveness. This indicator was newly constructed by us because we did not take into consideration the original weighting by umverkehr (costs were weighted double) and not all variables were on the same scale of measurement.

The performance indices are constructed as follows: First, all single indicators are standardised on a 0 to 10 scale (10 denoting the best performance). Second, the three indices “quality”, “cost” and “time” are created by equally weighting the components of each dimension⁵. Third, the aggregation of these three indices into a single measure of general effectiveness is done with the help of an arithmetic mean.

The data we use were collected by umverkehr in 2006. This was the second edition of this study, which allowed us to run a robustness check with the older data from 2003. The significant results remained the same.

Figure 1: Indicators of the performance of urban public transport



⁵ Note that the cost index consists of one indicator only.

3.2 *Independent variables*

Our main independent variable was, as laid out before, mode of political steering. To find out how public transport was organised in the 45 agglomerations under scrutiny, we used three sources: webpages, cantonal legislation and whenever necessary, we made additional telephone interviews. We limited our analysis to the main provider of public transport within each agglomeration. When looking at the Swiss urban areas under scrutiny the ideal-types do not occur in pure form. Nevertheless, differences along the defined criteria are observable albeit in slightly more nuanced manner. In the 45 analysed urban areas, four different types of political governance exist (see: Table 2).

Table 2: Four empirical modes of political steering of public transport in Swiss agglomerations

	Metropolitan Government	Metropolitan Governance	Complex Metropolitan Governance	Network Governance
Actors – number of political level/s	State actors from several levels	State actors from several levels	State actors from several levels	State actors from several levels
Actors – public and/or private	No private actors	No private actors	No private actors	State and private actors
Mode of co-ordination – relation	Hierarchical	Negotiated	Negotiated	Negotiated
Mode of co-ordination – institutionalisation	Bureaucratic rule	formalised	Ad hoc	Formalised
Frequency in our sample	18	13	5	9

In all agglomerations, actors from different political levels are involved in the decision-making process, even though with different responsibilities. Thus the public choice model (numerous independent and competing jurisdictions) cannot be observed within the field of public transport, while the Metropolitan reform model (a monolithic political entity for the metropolitan area) comes rather close to the Metropolitan government type. In nearly half of the cases, the dominant mode of co-ordination is hierarchical (Metropolitan government). This is to say that one political level (for our cases the respective canton) clearly dominates the decision-making process. While other political actors from other levels are included, their participation depends on the willingness of the canton and their power is restricted. The

hierarchical mode of co-ordination is always codified within cantonal law and follows therefore clear bureaucratic rules. Negotiation takes place mainly within the cantonal bureaucracy and within the cantonal parliament. There is no other arena in which actors from different levels meet with equal decision power and discuss different options. Nevertheless, different political entities are regularly integrated into a process of consultation and hearings.

In all other city-regions, the dominant mode of co-ordination is that of negotiation between different political levels, where the involved actors meet and discuss questions of public transport within a special arena. The discussion might take place under the shadow of hierarchy (Scharpf 1999), nevertheless the autonomy of the arena is barely restricted and the decisions taken in the arena are highly legitimated. There is no single actor, which dominates the governance structure.

In five cases (complex metropolitan governance), the arena in which actors meet and the mode of co-ordination are hardly explicit and mostly agreed on in an ad hoc manner. There are well-established routines, which might have the same power as formalised rules. Still, within this type of governance, changes of behaviour are more likely to occur and the certainty concerning the course of the decision-making process is rather low. In 22 cases (Metropolitan Governance and Network Governance) there are codified rules, which are not (or only partially) included within cantonal law and are formulated in a rather open manner.

A dominant thesis in governance studies that there are more private actors involved in political decision nowadays holds not true for Swiss agglomerations. Only in nine city-regions, private agencies are integrated into the governance structure (Network Governance). Urban public transport in Switzerland is still solely in the responsibility of the government/state.

Beside the type of political steering, we included several control variables in our model to test for alternative explanations for effective public transport. We took these these control variables into consideration as they are either debated in the scientific community or in the political discussions in Switzerland. We put the number of inhabitants for each agglomeration into the model, as it is usually said to be easier to provide an effective public transport within a larger agglomeration (sinking marginal costs). We also included the percentage of commuters for the whole agglomeration, because it should be easier to provide an effective public transport if the potential for clients is higher. The wealth of the inhabitants of the

agglomeration was included because richer communes should be financially more capable to provide good services. We also introduced a dummy variable for the language of the agglomeration⁶, because the French speaking part is usually said to be more relying on individual than on mass transport.

We control several political variables that might – besides the governance structure – influence the policy outcome. We use the share of voter percentage of left parties both within the core city as well as at the cantonal level⁷ and the difference between these two percentages. Left parties are said to be friendlier in terms of public transport. Furthermore, the contestation between the cantonal and the communal level might hinder an effective outcome. Finally, we use the indicator of direct democracy from Stutzer (1999)⁸ to test the public choice hypothesis that a higher possibility for citizens to control politicians within a policy area provides a more effective outcome.

3.3 Results

The arithmetic mean of the performance level is 5.25, the standard deviation is 0.6. The score of the best performer (Emmen: 7.3) is nearly two times higher than the one of the worst performer (Zofingen 4.4).

Table 3: General performance scores of the 45 metropolitan areas

Emmen	7.3	Genva	5.3	Winterthur	5.0
Thalwil	6.5	Schwyz	5.3	Baden-Wettingen	5.0
Kreuzlingen	6.1	Solothurn	5.3	Vevey-Montreux	5.0
Furttal	6.1	Biel/Bienne	5.3	Rheintal	4.9
Southern Basel	6.0	Neuchâtel	5.2	Grenchen	4.8
Glattal	6.0	Küsnacht-Zollikon	5.2	Fribourg	4.8
Chur	5.7	Frauenfeld	5.2	Burgdorf	4.8
Basel	5.7	Wetzikon	5.2	Aarau	4.7
Zürich	5.7	Yverdon	5.2	LaChaux-de-Fonds	4.7
Lugano	5.5	Uster	5.1	Sion	4.6
Luzern	5.4	Morges	5.1	Bellinzona	4.6
Schaffhausen	5.4	Berne	5.1	Locarno	4.6
Zug	5.4	Lausanne	5.1	Liestal	4.6
Limmattal	5.4	St. Gallen	5.0	Olten	4.5
Rapperswil-Jona	5.4	Thun	5.0	Zofingen	4.4

⁶ All this information was available online from the Swiss Federal office for statistics. See www.bfs.admin.ch

⁷ Unfortunately, there are no comparable data available on the communal level on party voting. We therefore had to take the vote on the national parliament for each commune within the agglomeration. See www.parlament.ch

⁸ The indicator of direct democracy is a composite index (from 0 to 10) measured by the share of required signatures in referenda and initiatives.

In respect to the governance structure, the network governance type displays the highest performance level (mean of 5.8). It is followed by the complex metropolitan governance type (5.5), the metropolitan governance type (5.1) and the metropolitan government type (5.1).

In order to examine whether the types of governance structure systematically account for differences in the performance level, we conduct multivariate OLS regressions. We run four regression models. Model 1 analyses the determinants of the general performance index. The dependent variables of models 2, 3 and 4 are the indices “quality”, “cost” and “time”. All regressions include the control variables we outlined in the previous section. The analysis reveals that metropolitan areas belonging to the network governance type outperform the other ones. According to model 1, this type leads to a higher general performance score of 0.6 points on average, compared to the metropolitan government and metropolitan governance type. Both results are significant at the 5% error level. Concerning the control variables, none of them have a significant impact on the effectiveness (see table 4 on the next page).

Let's turn to the performance of the indices “quality”, “time” and “cost”. Looking at our regression models 2, 3 and 4 it becomes clear that the positive correlation between the network governance type and the effectiveness is based on the results of the cost dimension. Regarding transport quality and transport time, there are no significant differences between the four governance types. All other control variables remain insignificant.

Table 4: Regression results

	General Performance Index (1)	Quality Performance Index (2)	Time Performance Index (3)	Cost Performance Index (4)
Metropolitan Government	-0.574* (0.243)	-0.241 (0.327)	-0.001 (0.272)	-1.481* (0.595)
Metropolitan Governance	-0.611* (0.239)	0.552 (0.416)	0.177 (0.266)	-1.835** (0.585)
Complex Metropolitan Governance	-0.156 (0.310)	-0.175 (0.321)	0.275 (0.345)	-1.296 (0.757)
Share of left-parties in the core city	-0.004 (0.109)	-0.007 (0.015)	0.005 (0.012)	-0.009 (0.026)
Polarisation	-0.016 (0.016)	-0.028 (0.021)	0.027 (0.018)	-0.048 (0.038)
Direct democracy	0.022 (0.029)	0.064 (0.035)	0.027 (0.029)	-0.026 (0.063)
Commuter rate	-0.099 (0.195)	0.082 (0.261)	-0.368 (0.217)	-0.002 (0.476)
Population size	0.017 (0.012)	-0.004 (0.016)	0.039** (0.013)	0.014 (0.028)
Tax revenues per capita	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
Intercept	5.866** (0.533)	5.580** (0.714)	5.473** (0.593)	6.545** (1.301)
R ²	0.375	0.353	0.530	0.326
Adj. R ²	0.215	0.186	0.409	0.152
N	45	45	45	45

* significant at the 5% error level, ** significant at the 1% error level

Standard errors in brackets

Governance structure types: Metropolitan Government as reference group

The regressions have been checked for normality of residuals, heteroscedasticity, multicollinearity and autocorrelation.

We are now turning to a more detailed comparison of the four governance types in Model 1. There are only significant differences between network governance on the one hand and metropolitan governance and government on the other (see table 5). The difference between network and complex metropolitan governance is not significant and rather small (-0.16). The gap between complex metropolitan governance and metropolitan governance and government is rather large (-0.45 and -0.42), however not significant. Metropolitan governance and metropolitan government show very similar results: a change from metropolitan government

to governance would reduce the performance by 0.04 in average (this result is however not significant). To sum up: the best setting for the political steering of urban public transport is the network governance type, followed by complex metropolitan governance and at the end metropolitan government and metropolitan governance.

Table 5: Comparison of the four types of governance

	Metropolitan Government	Metropolitan Governance	Complex Metropolitan	Network Governance
Metropolitan Government	-	0.04	-0.42	-0.57*
Metropolitan Governance	-0.04	-	-0.45	-0.61*
Complex Metropolitan	0.42	0.45	-	-0.16
Network Governance	0.57*	0.61*	0.16	-

* Significant at the 5% error level

3.4 Discussion of the quantitative results

On a general level, the first hypothesis that government delivers better public transport was proven to be false. Hierarchical and state-embedded modes of political steering do not lead to more effective public transport than more horizontal modes involving state and societal actors. How can this result be explained? As others have argued (Le Galès 1998; Hooghe und Marks 2003; Blatter 2004: 531) the government versus governance dichotomy has to be analysed considering the concrete political conditions in which they are applied. We therefore try to integrate our findings into the theoretical debate in terms of revealing possible mechanisms and conditions under which governance is more successful than government in the following section. In order to come to theoretically more fruitful insights, we will limit ourselves to the comparison of metropolitan government and network governance relying on the reflections on the best case (Emmen, network governance) and the worst case (Zofingen, metropolitan government).

One main argument for metropolitan government is the political institutionalisation of the functional-integrated space in order to obtain economies of scale. In the Swiss cases however, metropolitan government is always located at the cantonal level, thus the political structure is

not congruent to the functional-space of the agglomeration⁹. In the case of Zofingen, the canton of Aargau is responsible for public transport. The communes within the agglomeration of Zofingen are only heard in the process of planning. They are thereby not treated differently than any other communes in the canton. Additionally, as the agglomeration of Zofingen crosses the cantonal borders to Solothurn, the cantonal administrations of Aargau and Solothurn would have to negotiate in order to organise an integrated public transport scheme related to the urban area. In the metropolitan government types in Switzerland, one important condition of the ideal type of government is not fulfilled, namely that of the congruence between the functional and the political territories.

The case of Emmen shows a very different form of organisation. There is a single-purpose organisation (Zweckverband) which is responsible for the planning and financing of the public transport encompassing all communes and the canton within the agglomeration. The communes can negotiate bilaterally and on the metropolitan level. It is easily possible for new communes to be included (even communes outside the canton of Lucerne) and to adjust agreements.

The network governance schemes in our study are in contrast to metropolitan government schemes single purpose organisations. They were created explicitly to organise one single policy in a territory. The functional scope of metropolitan government is much broader. A single purpose organisation can act and decide independently from other policy fields and parliamentary politics. Our results demonstrate that this advantage outperforms the advantages of general-purpose governments, that is the possibilities to accommodate and adjust between functionally interdependent policies within one political organisation (Hooghe und Marks 2003). In a multi-level setting, governance modes of steering relying on single-purpose networks (or organisations) on the agglomeration level seem to be more promising than government ones. This is for two reasons. First, the channels of interest articulation and the negotiations between different interests are less complicated and independent from other issues thus providing more possibilities for different, specific solutions. Second, as the agglomeration can be perceived rather as ‘spaces of flow’ than ‘spaces of place’ (Castells 1996), it is possible to adjust the organisational composition and the institutional setting according to new territorial, functional and societal developments.

⁹ The cantons of Zug and Geneva are cases of metropolitan government where the territory of the canton and that of the agglomeration are congruent and they are among the best performers in the group of the metropolitan government type.

One very important difference between network governance and all other types of political steering is the involvement of private actors. In all cases of network governance, private companies provide the service of public transport or there was a public tendering for the service. This means that not only the planning and provision of the service is split up between different actors. But additionally, there is a competition amongst different providers, which enhances the chances not only for a more efficient, but also for a more effective service provision. In the network governance settings, the process of decision-making is more or less adjusted to the policy needs. In metropolitan government settings, the decision-making process is the same in all policies. Thus in network governance, the possibility to change the policy-making process according to policy-specific arguments, is higher.

From a more general perspective, we can interpret our results along two lines of reasoning. Governance has to be appropriate first concerning the characteristics of the policy and second concerning the relevant territory where policy-making applies.

Our types of governance do not include a temporal or procedural differentiation. The definition of governance structures is rather static. In contrast, the policy-making process is dynamic and different aspects of the governance structure occur in different phases of the process. In our analysis, the best governance structure integrates private actors but it integrates private actors only when it comes to the actual provision of public transport. The analysis of and the theories on governance thus have to be sensible for the procedural aspect of the policy-making processes and the specific characteristics of the policy area.

Governance and the related policy are always territorially bound. The territorial issue is relevant in two ways. First, it is crucial to consider, where the boundaries of the relevant territory are drawn and second, to which degree these boundaries are institutionalised.

A policy and the related governance structure refer to a certain territory. This is obvious when it comes to public transport. A bus has its last stop somewhere. This draws the border of service provision. Within every governance structure, some communes are included and others are not, thus a border between members and non-members of this governance structure is drawn. In the governance-oriented types of public transport organization, the space of political steering is designed around the functional imperatives of that policy. In the metropolitan government mode, political steering is embedded in spaces designed around established political communities. Our results point out that the more congruent the functional and the political space are, the more effective is the governance structure.

That leads to the second argument in favour of governance types of steering. As long as the functional territory is constantly changing, the political organisation should be able to adjust to these scalar changes in order to preserve good public transport. As governance types of political steering are more flexible when it comes to legal changes and the inclusion of new actors, governance types are more appropriate for governing rapidly changing urban areas. But as soon as a territory is consolidated, more rigid forms of regulation are again feasible. The choice for a mode of political steering is therefore strongly connected to the territory in which a policy should be regulated.

Some scholars perceive the flexibility of governance types of political steering as an advantage over government. While governance is by definition structurally more flexible than government, however, flexibility as such cannot be seen as an advantage per se. It must be connected to the object to govern. In what way does the policy or the territory demand flexible or more open policy-making? By answering this question an appropriate governance structure might be found.

Additionally to the results on the governance structure, the insignificance of most control variables is astonishing. Only the population size remains significant. The hypothesis that it is easier to organise an effective public transport in larger metropolitan areas was not falsified. But other than expected, politically left-wing dominated metropolitan areas do not outperform those dominated by right-wing parties and the political struggle between the regional and the communal level does also not influence the performance. Furthermore, richer communities and those with a higher share of commuters do not perform better as it was assumed by the hypotheses. The often heard assumption that public transport in the French speaking part of Switzerland is less effective is also not holding true according to our analysis.

4. Conclusion

In our study, we analysed the performance of public transport provision in 45 Swiss urban areas. Our theoretical framework is embedded in the debate on ‘old’ and ‘new regionalism’. On a descriptive level, we showed that the ‘old regionalism’ types of organizing the metropolitan area do not exist empirically in the case of public transport in Switzerland. Rather, the existing schemes of political steering can be located on the continuum between government and governance. We identified four different types of governance: Metropolitan government, metropolitan governance, complex metropolitan governance and network governance.

We compared the performance of the public transport provision of the four types of governance by running an OLS regression model. The results show that network governance outperforms metropolitan governance as well as metropolitan government. All other variables (except population size) and results are not significant. We limited our analysis to the differences between network governance and metropolitan government. We came to the conclusion that network governance can adjust more flexible and smoothly not only to specific demands of the policy area but also, and more importantly, to the rapid changes of the territorial environment within the urban agglomeration. Thereby, it is possible to deliver more appropriate services. Nevertheless, and in line with the arguments put forward by ‘new regionalists’, we do not advocate for just one best model of political steering. Rather, governance schemes have to be context sensible not only related to the policy but also to the existing political, institutional and territorial conditions. Furthermore, it is necessary to conduct more detailed case studies to examine the different mechanisms at work.

While the emergence of new governance modes is often seen as a shift from territory to function, it is important to consider that these governance schemes produce new territories and scales which then stand in contradiction and opposition to the existing ones. While these processes of de- and reterritorialisations (Brenner 1999) might be functionally more adequate, they nevertheless raise questions of political identity and belonging (Blatter 2004) and thus the questions of the legitimacy. It is still an unresolved normative question if network governance can or should be democratically evaluated along the same criteria as governments or if such an evaluation needs a rethinking of democratic theory (Sorensen und Torfing 2005). Then again, the emergence of new governance forms and new political spaces might be the result of changed understandings and conceptions of political legitimacy (Koch 2007).

However, new forms of governance in changing urban areas put the existing mechanisms and institutions of political steering under strain, stand in opposition to them or create tensions concerning their functionality, their legitimacy and their appropriateness.

5. Bibliography

- Blatter, Joachim (2004). "'From Spaces of Place' to Spaces of Flows'? Territorial and Functional Governance in Cross-border Regions in Europe and North America", *International journal of urban and regional research* 28(3): 503-548.
- Brenner, N. (1999). "Globalisation as reterritorialisation: the re-scaling of urban governance in the European Union", *Urban Studies* 36(3): 431-451.
- Castells, M. (1996). *The rise of the network society*. Cambridge:
- Cunha, A. and M. Schuler (2001). "Métropolisation, changement de régime d'urbanisation et fragmentation de l'espace: enjeux de la gouvernance des agglomérations en Suisse", *Swiss Political Science Review* 7(4): 121-124.
- Dibben, Pauline (2006). "The 'socially excluded' and local transport decision making: voice and responsiveness in a marketized environment", *Public Administration* 84(3): 655-672.
- Diener, Roger, Jacques Herzog, Pierre de Meuron, Marcel Meili and Christian Schmid (2005). *Die Schweiz. Ein städtebauliches Porträt*. Basel: Birkhäuser Verlag AG.
- Frey, B.S. and R. Eichenberger (2001). "Metropolitan governance for the future: functional overlapping competing jurisdictions (FOCJ)", *Swiss Political Science Review* 7(3): 124-130.
- Friskens, F. and D.F. Norris (2001). "Regionalism reconsidered", *Journal of urban affairs* 23(5): 467-478.
- Heinelt, Hubert and D. Kübler, Eds. (2005). *Metropolitan governance*. London.
- Hooghe, L. and G. Marks (2003). "Unraveling the central state, but how? Types of multi-level governance", *American Political Science Review* 97(2): 233-243.
- Kaufmann, Vicent and Fritz Sager (2006). "The coordination of local policies for urban development and public transportation in four swiss cities", *Journal of Urban Affairs* 28(4): 353-374.
- Keating, Michael (1995). "Size, Efficiency and Democracy: Consolidation, Fragmentation and Public Choice", in D. Judge, Gerry Stoker and H. Wolman. *Theories of Urban Politics*. London: pp. 117-134.
- Koch, Philippe (2007). Changes in urban governance and conceptions of legitimacy. Understanding developments in urban public transport governance in two Swiss metropolitan areas (1950-2000). Paper presented at the conference: Interpretation in Policy Analysis: Research and Practice. Amsterdam. 31 May - 2 June 2007.
- Kooiman, Jan (2003). *Governing as governance*. London: Sage Publications.
- Kübler, Daniel (2003). "'Metropolitan Governance' oder: Die unendliche Geschichte der Institutionenbildung in Stadtregionen", *Informationen zur Raumentwicklung* 8/9.
- Kübler, Daniel and Brigitte Schwab (2007). "New regionalism in five Swiss metropolitan areas. An assessment of inclusiveness, deliberation and democratic accountability", *European Journal of Political Research* 46: (29-58).

- Ladner, Andreas and Reto Steiner (2003). "Die Schweizer Gemeinden im Wandel: Konvergenz oder Divergenz", *Swiss Political Science Review* 9(1): 233-259.
- Le Galès, P. (1998). "Regulations and Governance in European Cities", *International journal of urban and regional research* 22(3): 482-506.
- Lefèvre, C. (1998). "Metropolitan Government and Governance in Western Countries: A Critical Review", *International journal of urban and regional research* 22(1): 9-25.
- Norris, Donald F. (2001). "Prospects for Regional Governance under the New Regionalism: Economic Imperative Versus Political Impediments", *Journal of Urban Affairs* 23(5): 557-571.
- Ostrom, Vicent, Charles M. Tiebout and Robert Warren (1961). "The organization of government in metropolitan areas: a theoretical inquiry", *American Political Science Review* 55(4): 831-842.
- Parks, R.B. and R.J. Oakerson (2000). "Regionalism, localism, and metropolitan governance: suggestions from the research program on local public economies", *State and local government review* 32(3): 169-179.
- Peters, B.G. and J. Pierre (2000). *Governance, politics and the state*. London.
- Pierre, John (2005). "Comparative Urban Governance. Uncovering Complex Causalities", *Urban Affairs Review* 40(4): 446-462.
- Rhodes, R.A.W. (1997). *Understanding governance: Policy networks, governance, reflexivity and accountability*. London.
- Sager, Fritz (2002). *Vom Verwalten des urbanen Raumes*. Bern.
- Savitch, H. and R.K. Vogel (2000). "Paths to new regionalism", *State and local government review* 32(3): 158-168.
- Scharpf, F.W. (1999). *Governing in Europe: Effective and democratic?* Oxford.
- Scharpf, F.W. (2000). *Interaktionsformen. Akteurzentrierter Institutionalismus in der Politikforschung*. Opladen: Leske + Budrich.
- Skelcher, Chris, E.H. Klijn, D. Kübler, Navdeep Mathur, Eva Sorensen and Helen Sullivan (2006). *Governance networks, democratic anchorage, and the impact of national political context*. Paper presented at the conference: A Performing Public Sector: The Second Transatlantic Dialogue. Leuven.
- Sorensen, Eva and J. Torfing (2005). "Network Governance and Post-liberal Democracy", *Administrative Theory & Praxis* 27(2): 197-237.
- Sørensen, Eva and Jacob Torfing (2005). "The Democratic Anchorage of Governance Networks", *Scandinavian Political Studies* 28(3): 195-218.
- Steiner, Reto (2002). *Interkommunale Zusammenarbeit und Gemeindezusammenschlüsse in der Schweiz: Erklärungsansätze, Umsetzungsmöglichkeiten und Erfolgsaussichten*. Bern: Paul Haupt.
- Stoker, Gerry (2000). "Urban Political Science and the Challenge of Urban Governance", in J. Pierre. *Debating Governance*. Oxford: pp. 91-109.
- Stutzer, Alois (1999). *Demokratieindizes für die Kantone der Schweiz*.

- Swanstrom, T. (2001). "What we argue about when we argue about regionalism", *Journal of urban affairs* 23(5): 479-496.
- Torring, J. (2005). "Governance Network Theory: Towards a Second Generation", *European Political Science* 4(3): 305-315.
- Umverkehr (2003). "ÖPNV - Hausaufgaben gemacht?" *Das Magazin für nachhaltige Mobilität* Sondernummer (Oktober).
- Umverkehr (2006). *ÖV-Test 2006: Die Resultate*. Zürich.
- van der Heiden, Nico (2006). *Evaluation institutioneller Lösungen des öffentlichen Agglomerationsverkehrs*.
- van Egmond, Patrick, Peter Hijkma and Gabriella Vindigni (2003). *A comparative analysis of the performance of urban public transport systems in Europe*.
- Van Kersbergen, Kees and Frans van Waarden (2004). "Governance as bridge between disciplines: cross disciplinary inspiration regarding shifts in governance and problems of governability, accountability and legitimacy", *European Journal of Political Research* 43(2): 143-171.
- Wallis, A.D. (1994). "The third wave: current trends in regional governance", *National Civic Review* 83(3): 290-310.
- Washington, Oliver (2000). *Entwicklungen in der schweizerischen Verkehrspolitik*.